NORTH CAROLINA
DIVISION OF AIR QUALITY
Application Review

Issue Date: xx

Region: Mooresville Regional Office
County: Lincoln
NC Facility ID: 5500082
Inspector's Name: Melinda Wolanin
Date of Last Inspection: 08/01/2019
Compliance Code: 3 / Compliance - inspection

Facility Data

Applicant (Facility's Name): Duke Energy Corporation LCTS

Facility Address:
Duke Energy Corporation LCTS
6769 Old Plank Road - SR 1511
Stanley, NC 28164

SIC: 4911 / Electric Services
NAICS: 221112 / Fossil Fuel Electric Power Generation

Facility Classification: Before: Title V **After:** Title V
Fee Classification: Before: Title V **After:** Title V

Permit Applicability (this application only)

SIP: 02Q .0400
NSPS: N/A
NESHAP: N/A
PSD: N/A
PSD Avoidance: N/A
NC Toxics: N/A
112(r): N/A
Other: N/A

Contact Data

Facility Contact	Authorized Contact	Technical Contact
Benjamin Loveland Senior EHS Professional (704) 742-3000 6769 Old Plank Road Stanley, NC 28164	Kristopher Eisenrieth General Manager II (704) 630-3015 6769 Old Plank Road Stanley, NC 28164	Erin Wallace Sr. Environmental Specialist (919) 546-5797 410 South Wilmington Street Raleigh, NC 27601

Application Data

Application Number: 5500082.18A
Date Received: 06/29/2018
Application Type: Modification
Application Schedule: Title IV

Existing Permit Data
Existing Permit Number: 07171/T12
Existing Permit Issue Date: 09/24/2019
Existing Permit Expiration Date: 04/30/2021

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2018	5.69	96.06	1.79	31.91	5.50	0.6158	0.2735 [Formaldehyde]
2017	0.6200	14.63	1.34	5.31	1.15	0.1309	0.1181 [Formaldehyde]
2016	2.10	39.01	1.59	22.31	2.80	0.3306	0.2130 [Formaldehyde]
2015	2.70	40.31	1.63	23.26	2.84	0.3299	0.2245 [Formaldehyde]
2014	10.11	88.18	1.62	19.34	4.71	0.5306	0.2246 [Manganese & compounds]
2013	1.51	33.58	1.77	35.41	2.85	0.3931	0.2994 [Formaldehyde]

Review Engineer: Rahul Thaker

Review Engineer's Signature: **Date:** December 17, 2019

Comments / Recommendations:
Issue 07171T13
Permit Issue Date: xx
Permit Expiration Date: 04/30/2021

1.0 Purpose of Application

Duke Energy Corporation LCTS (hereinafter "DEC" or "LCTS"), submitted an Acid Rain Permit Application to obtain an Acid Rain permit for the new, natural gas/No. 2 fuel oil-fired combustion turbine (ID No. ES-19). The DAQ had earlier issued a PSD permit (Air Quality Permit No. 07171T11, August 1, 2018) for this emission source, satisfying the preconstruction permitting requirements pursuant to 15A NCAC 02D .0530.

The DAQ deemed this application "complete" for purposes of both Title IV and Title V of Clean Air Act (CAA) effective 7/11/2018. The DAQ will process the application per requirements in both NCAC 02Q .0400 and .0500, and satisfy all applicable public participation, and EPA and affected states review requirements.

2.0 Application Chronology

June 29, 2018	Received the application.
July 2, 2018	Application deemed incomplete for processing.
July 11, 2018	Determined application complete. Received a copy of the certification of representation for a designated representative for LCTS.

3.0 Facility Information

DEC owns and operates the LCTS, Stanly, Lincoln County, North Carolina. The Lincoln Station comprises of seventeen (17) natural gas/No. 2 fuel oil-fired simple cycle combustion turbines. Sixteen units are nominally rated at 1,313 million Btu per hour each when firing natural gas and 1,247 million Btu per hour each when combusting No. 2 fuel oil. These above units are in operation. They are "peaking" sources, providing fast-start capacity to meet electric system demands during periods of high customer use and back-up power for Duke Energy's nuclear, fossil, and hydro stations. The new, seventeenth unit (ES-19) is under construction (not operable at this time) and rated as follows:

	Version A	Version B	Version C
Nominal Net Capacity (winter/summer), MW	369 / 335	382 / 347	402 / 365
Maximum Gross Capacity, MW	Not Available	Not Available	571 (natural gas) 475 (fuel oil)
Maximum Heat Input Rate, million Btu/hr (HHV)	3,668 (natural gas) 3,028 (fuel oil)	3,764 (natural gas) 3,104 (fuel oil)	5,224 (natural gas) 4,375 (fuel oil)

The facility also includes ancillary sources (i.e., fire water pump and fuel oil storage tanks) to support the operation of the combustion turbines.

The facility's primary business activity is classified under the Standard Industrial Classification (SIC) code 4911 "Electric Services "[1].

The LCTS is approximately 17 miles northwest of Charlotte, NC.

4.0 Statement of Compliance

Based upon the most recent compliance inspection, conducted by the MRO (Melinda Wolanin) on August 1, 2019, "this facility appeared to be in compliance with the applicable air quality regulations."

5.0 Regulatory Applicability

[1] Includes establishments engaged in generation, transmission and/or distribution of electric energy for sale.

The only regulatory requirement, which needs to be discussed, is the requirement in 02Q .0400 ("Acid Rain Procedures"), pursuant to the Title IV of the Clean Air Act (CAA).

The combustion turbine (Unit ID # 17 (ES-19)), is an affected, fossil-fuel fired "new" unit (i.e., commence commercial operation on or after November 15, 1990), with a capacity to produce electricity of equal to or more than 25 MW for sale. Therefore, the unit is subject to Acid Rain program requirements in 02Q .0400. Therefore, the Acid Rain program requirements are required to be added for this unit with this permit revision.

The effective dates for the current Acid Rain permit for combustion turbines (ES-1 through ES-16) provide for up to five-years duration for the life of the permit, from May 19, 2016 through April 30, 2021. This Title IV permit expiration date is the same as the current Title V permit itself.

It needs to be emphasized that provision in 40 CFR §72.73(b)(2) requires that "each Acid Rain permit issued in accordance with this section shall have a term of 5 years commencing on its effective date; *provided* that, at the discretion of the permitting authority, an Acid Rain permit for Phase II issued to a source may have a term of less than 5 years where necessary to coordinate the term of such permit with the term of an operating permit to be issued to the source under a State operating permit program".

Thus, being consistent with §72.73(b)(2), the DAQ will issue an air Acid Rain permit for the new combustion turbine (17^{th} turbine, ES-19) with a term spanning from the issuance date of the revised Title V permit to the expiration date, matching the above existing Acid Rain and Title V permits validity date. Thus, in the future, the acid rain permit requirements can be renewed for all permitted sources (combustion turbines) with the Title V permit renewal. The Acid Rain Permit Application dated June 27, 2018 for ES-19 will become part of the Title V permit (as an attachment). Finally, it should be noted that the applicant has agreed to the above approach, for keeping the new unit's acid rain and title V permits' validity the same as all existing units, through an email dated July 17, 2018 (Ann Quillian, Duke Energy, to Rahul Thaker, DAQ).

The following requirements apply under the Acid Rain program for all permitted combustion turbines including the combustion turbine ES-19:

15A NCAC 02Q .0402 "Acid Rain Procedures" (40 CFR Part 72 "Permits Regulation")

As specified above, North Carolina air quality regulation 15A NCAC 02Q .0400 implements Phase II of the federal acid rain program, pursuant to Title IV of the CAA, as provided in 40 CFR Parts 72 and 76. Issuance or denial of acid rain permits shall follow the procedures under 40 CFR Part 70 (Title V) and Part 72. If the provisions or requirements of Part 72 conflict with or are not included in Part 70, the Part 72 provisions and requirements shall apply and take precedence. SO_2 allowances are not allocated by U.S. EPA for new units under 40 CFR Part 73; however, the sources must hold enough SO_2 allowances to cover their annual SO_2 emissions. There are no NOx emission limits for gas or oil-fired units pursuant to Part 76; however, NOx emissions monitoring is required.

15A NCAC 02Q .0402 "Acid Rain Procedures" (40 CFR Part 75 "Continuous Emissions Monitoring")

This regulation establishes requirements for the installation, certification, operation, and maintenance of continuous emissions or opacity monitoring systems. The Permittee must monitor and report emissions of both SO_2 and NO_x for the combustion turbine pursuant to Part 75.

6.0 Public Notice/EPA and Affected State(s) Review

Pursuant to 15A NCAC 2Q .0521, a notice of the revised DRAFT Title V Permit, revising the existing acid rain requirements, will be placed on DEQ website on xx. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Copy of the public notice will be sent to persons on the Title V mailing list and EPA on xx. Pursuant to 15A NCAC 2Q .0522, a copy of the permit application and the proposed permit (in this case, the draft permit) will be provided to EPA on xx for its 45-day review. Also, pursuant to 2Q .0522, a notice of the DRAFT Title V Permit will be provided to each affected State at or before the time notice provided to the public under 2Q .0521 above. A copy of the final permit will also be provided to the EPA upon issuance as per 2Q .0522.

7.0 Stipulation Review

The following changes were made to the Duke Energy Corporation LCTS, Air Quality Permit No. 07171T12:

Old Page No. [Air Quality Permit No. 07171T12]	New Page No. [Air Quality Permit No. 07171T13]	Condition No.	Changes
31	31	Section 2.3	Include validity of Acid Rain permit for ES-19 turbine from issuance date of this Title V permit to April 30, 2021.

8.0 Conclusions, Comments, and Recommendations

- A professional engineer's seal was not required for this application.
- A consistency determination was not required for this renewal application.
- The draft permit was emailed to the Permittee on December 4, 2019 for review. DEC (Erin Wallace) emailed on December 10th indicating that the responsible official for this facility be changed from Jeffrey Flanagan to Kristopher Eisenrieth. Ms. Wallace provided a supporting document to make this request. The DAQ will change the RO of the facility as Mr. Eisenrieth and issue the permit accordingly.
- The draft permit was emailed to the MRO on December 4, 2019 for review. Emily Supple of MRO emailed on December 12th stating that she did not have any comment on the draft permit.
- This permit engineer recommends issuing the final permit after the completion of public participation and EPA review periods.